



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,809	07/14/2006	Shinji Okamoto	NIS-16657	7041

40854 7590 09/04/2008  
RANKIN, HILL & CLARK LLP  
38210 Glenn Avenue  
WILLOUGHBY, OH 44094-7808

EXAMINER
----------

FIGUEROA, FELIX O

ART UNIT	PAPER NUMBER
----------	--------------

2833

MAIL DATE	DELIVERY MODE
-----------	---------------

09/04/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/595,809	<b>Applicant(s)</b> OKAMOTO ET AL.	
	<b>Examiner</b> Felix O. Figueroa	<b>Art Unit</b> 2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 11 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/12/2006</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Specification***

Applicant is reminded of the proper language and format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. It should avoid using phrases which can be implied, such as, "The present invention provides," "The disclosure defined by this invention," "The disclosure describes," etc.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishizaka (JP-06-111869).

Ishizaka discloses a connector chip comprising a rectangular parallelepiped insulating substrate (21) having six surfaces, and a conductive path (22) continuously formed on four continuous surfaces of the six surfaces, no conductive path being formed on remaining two opposing surfaces of the six surfaces.

Regarding claim 3, Ishizaka discloses a circuit device comprising a first circuit substrate (1) having a plurality of electrodes formed on a front surface thereof, a second

Art Unit: 2833

circuit substrate (5) arranged above the first circuit substrate with a gap provided therebetween and having a plurality of electrodes formed on a rear surface thereof, and a plurality of connector chip (20) having conductive paths (22) formed thereon, the electrodes on the first circuit substrate and the electrodes on the second circuit substrate being electrically connected respectively by the connector chips, the conductive paths and the electrodes being connected by soldering, the gap being maintained by the connector chips, each of the connector chips comprising a rectangular parallelepiped insulating substrate (21) having six surfaces, and the conductive path, the conductive path being continuously formed on four continuous surfaces of the six surfaces, no conductive path being formed on remaining two opposing surfaces of the six surfaces.

Regarding claim 4, Ishizaka discloses a connector chip comprising a rectangular parallelepiped insulating substrate (21) having six surfaces, and a plurality of conductive paths (22) formed on an outer peripheral surface, which is constituted by four continuous surfaces of the six surfaces, at a predetermined interval in an opposing direction of remaining two opposing surfaces of the six surface, and running round on the outer peripheral surface.

Regarding claim 6, Ishizaka discloses at least a pair of the surfaces opposing to each other among the four surfaces, insulating layers having a property of repelling molten solder are formed respectively between portions of two adjoining conductive paths among the plurality conductive paths, located on the pair of the surfaces.

***Claim Rejections - 35 USC § 103***

Art Unit: 2833

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizaka in view of Evans (US 3,985,413).

Ishizaka discloses substantially the claimed invention except for the specific conductive path. Evans teaches a conductive path (12) that is constituted by forming one or more plated layers over a base layer made of a metal thick film or a metal thin film (col. 4, lines 25-30), thus providing a more efficient electrical interface. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use different layers, as taught by Evans, to provide a more efficient electrical interface.

Regarding claim 10, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Ag, Ni-Cr or Cu for the base layer; and Sn for the second plated layer as the preferred material in order to provide the desired electrical and mechanical characteristics, and since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizaka in view of Shibata (US 6,123,558).

Art Unit: 2833

Ishizaka discloses substantially the claimed invention except for the different colors on opposite sides. Shibata teaches opposite side surfaces having different colors, thus facilitating connection in the correct/desired orientation. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use different colors in opposite surfaces, as taught by Shibata, to facilitate connection in the correct/desired orientation.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizaka.

Ishizaka discloses in the insulating substrate, a plurality of conductive-path-formed portions where the conductive paths are formed and a plurality of conductive-path-unformed portions where the conductive paths are not formed are alternately arranged along a center line so that the conductive-path-formed portions and the conductive-path-unformed portions share the center line. Ishizaka discloses substantially the claimed invention except for a width of each of the conductive-path-formed portions orthogonal to the center line is smaller/larger than a width of each of the conductive-path-unformed portions orthogonal to the center line. However, it would have been obvious to one skilled in the art at the time the invention was made to form the width of the conductive path being smaller/larger than the width of the insulating paths, in order to match the desired mating component. Claimed variations in relative dimensions, which do not specify a device which performs or operates any differently from the prior art, do not patentably distinguish applicant's invention. Gardner v. TEC Systems, Inc., 725 F.2d 1338 (Ct. App. Fed. Cir. 1984). Workable dimensions would

Art Unit: 2833

have been a matter of routine experimentation. Variations in the distance would have been obvious minor adjustments without patentable significance. See *In re Aller*, 105 USPQ 233 (CCPA 1955)(Where general conditions of the claim are disclosed in the prior art, it is not inventive to discover optimal or workable ranges by routine experimentation).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Felix O. Figueroa whose telephone number is (571) 272-2003. The examiner can normally be reached on Mon.-Fri., 10:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Renee Luebke can be reached on (571) 272-2009. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Felix O. Figueroa/  
Primary Examiner  
Art Unit 2833